

San Francisco Bay Delta Estuary

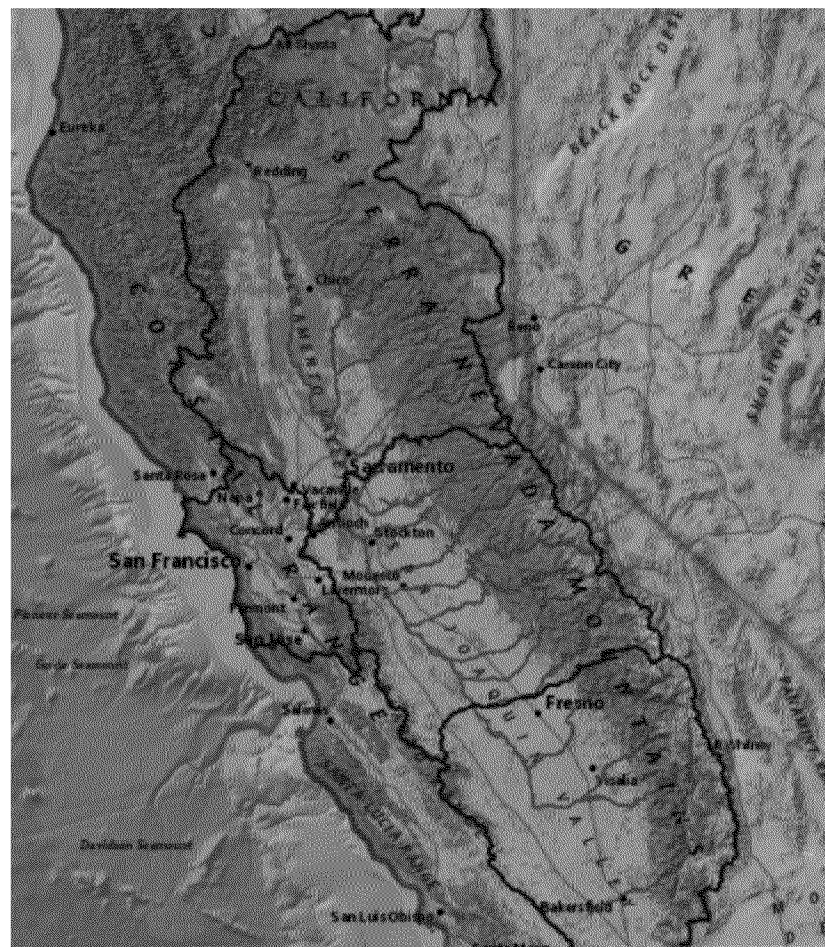
WaterFix/Bay Delta Conservation Plan

and

Water Quality Standards

Background: San Francisco (SF) Bay Delta

- Watershed = 75,000 square miles & drains 40% of state
- Supports the CA economy Water for 27 million people & 4 million acres of farmland
- Largest estuary on west coast of N. and S. America
- Habitat for 800 species
- Commercial & recreational fisheries, recreation & tourism



Background: SF Bay Delta Challenges

Ecosystem Collapse

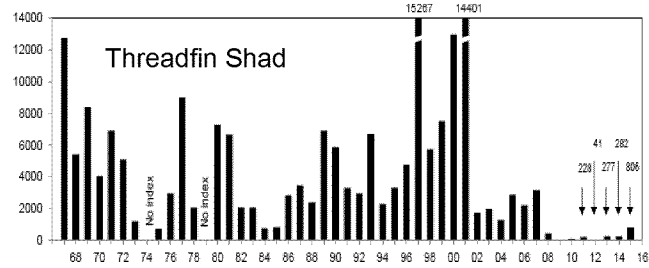
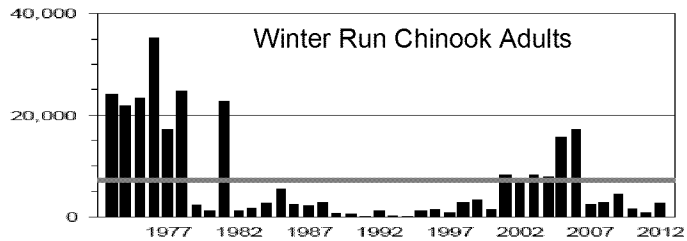
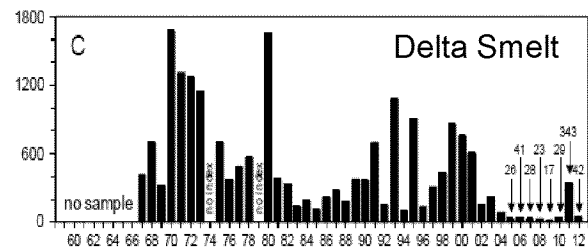


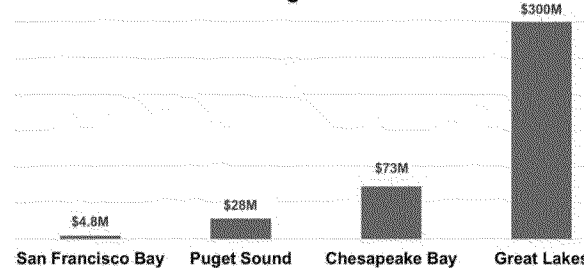
Figure 4. FMMT Threadfin Shad annual abundance indices, 1967-2015.



Water Quality



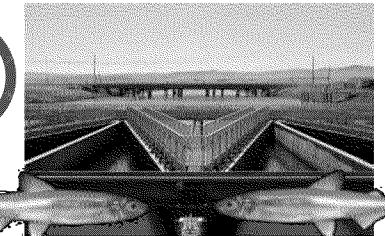
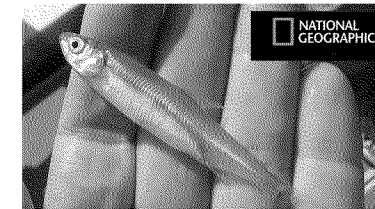
2015 EPA Funding for Major Geographic Programs



Water Supply

Delta Smelt, Icon of California Water Wars, Is Almost Extinct

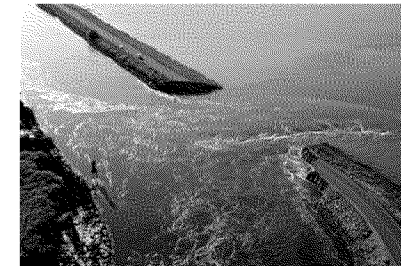
Try Delta's survival hangs in the balance as severe drought and decades of water pumping drain its habitat.



Drought-ravaged California orders record water cuts on farmers

- Order affects Sacramento, San Joaquin and delta watersheds
- Thousands of senior water rights holders will be affected

Sea Level Rise

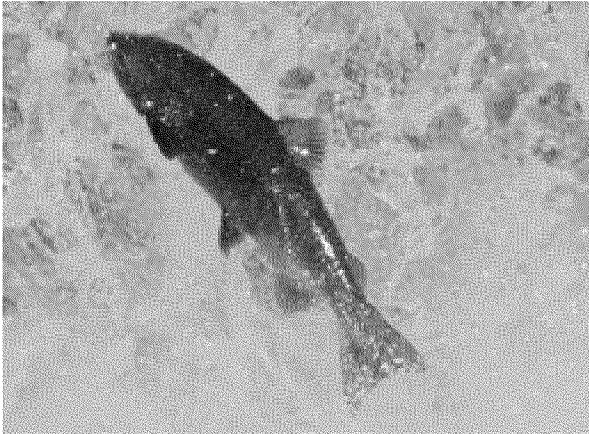


Earthquake could threaten California's water supply

Earth Day Special Feature 2011: Two-thirds of Californians get their water from the Delta. A look at Sherman Island and the aging levees in the Delta.

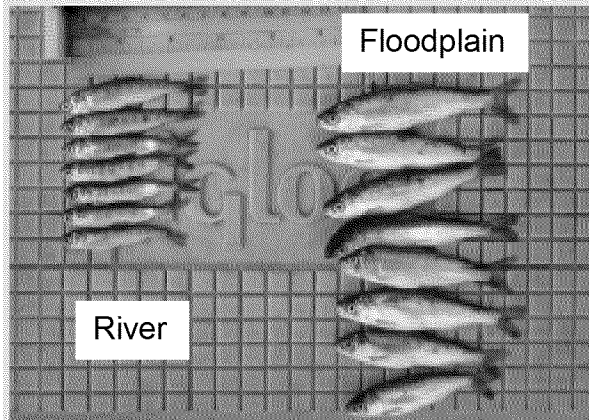


Background: SF Bay Delta Solutions



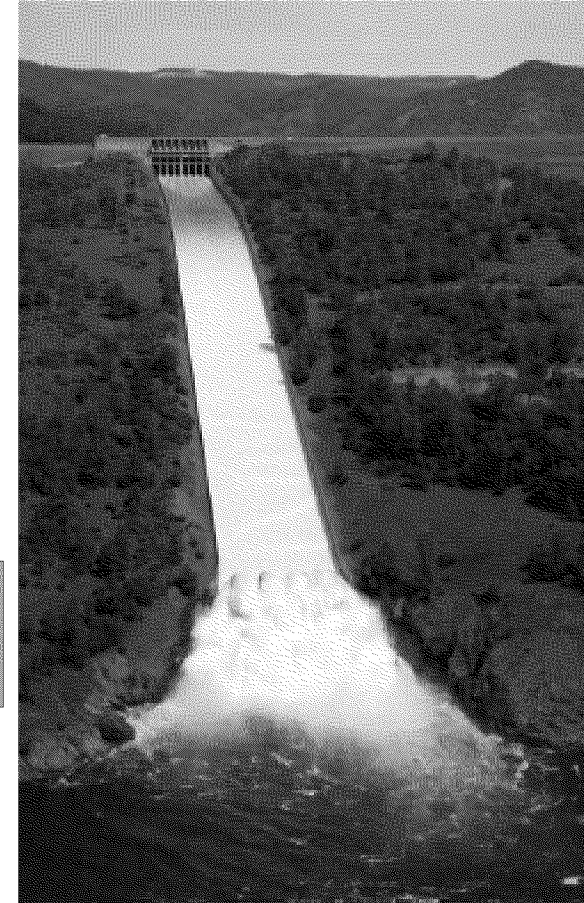
Improve Water Supply Reliability

- New Delta conveyance – California WaterFix
- Expand surface and groundwater storage
- Efficiency, conservation, & recycling



Protect & Restore Delta Ecosystem

- Update Water Quality Standards (WQS) to protect native and migratory fish
- Aquatic habitat restoration
- Improve water quality/minimize contaminants



WaterFix/Bay Delta Conservation Plan

Description

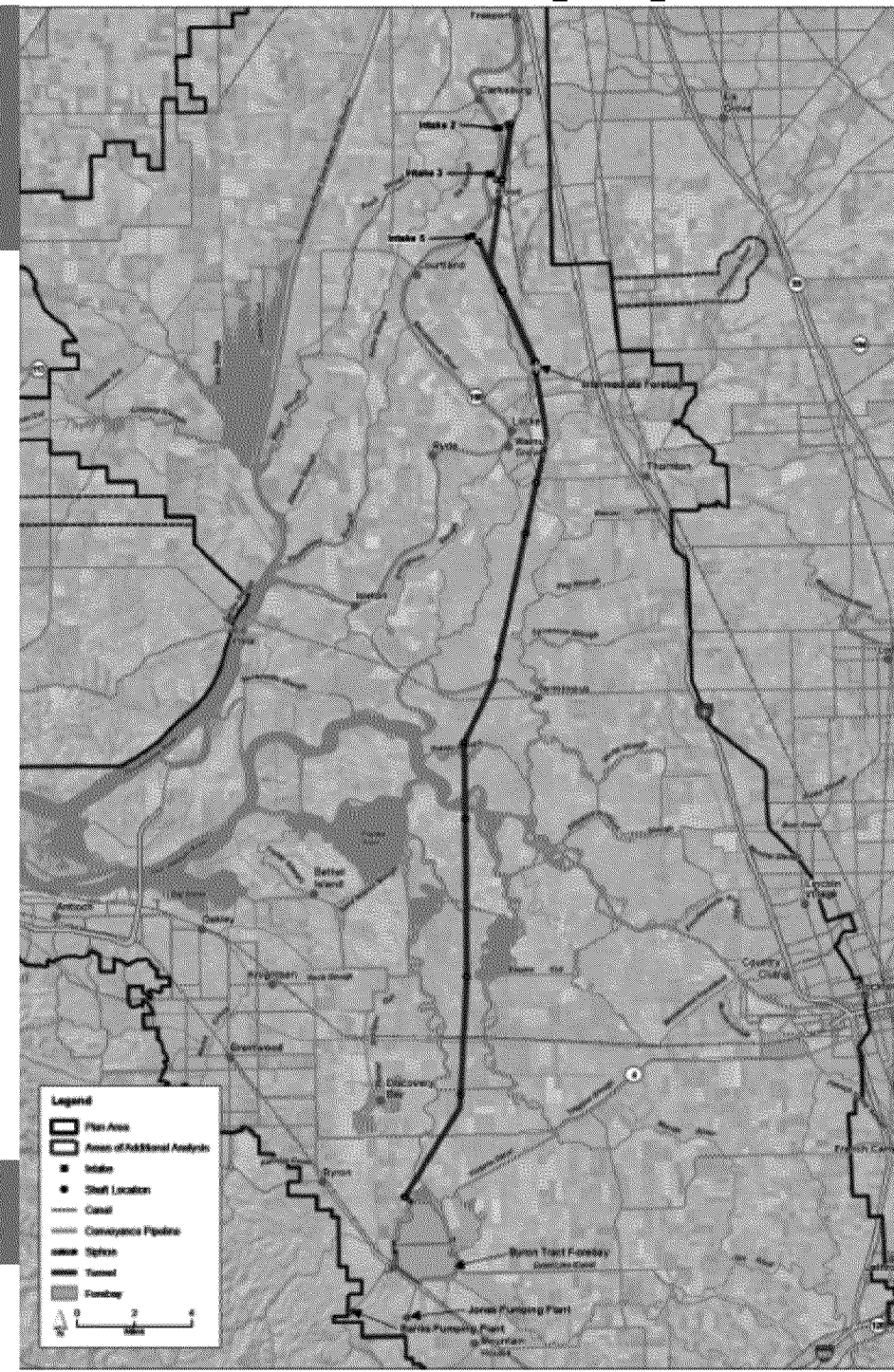
- Twin-tunnels and three new intakes to convey water from the Sacramento River directly to pumps in the southern Delta
- Tunnels are 40 miles long, 40 feet in diameter
- Operations of CVP/SWP with new WaterFix facilities

History

- Habitat Conservation Plan included tunnels and 150,000 acres of aquatic habitat restoration
- Scaled down to only include tunnels and minimal habitat restoration.

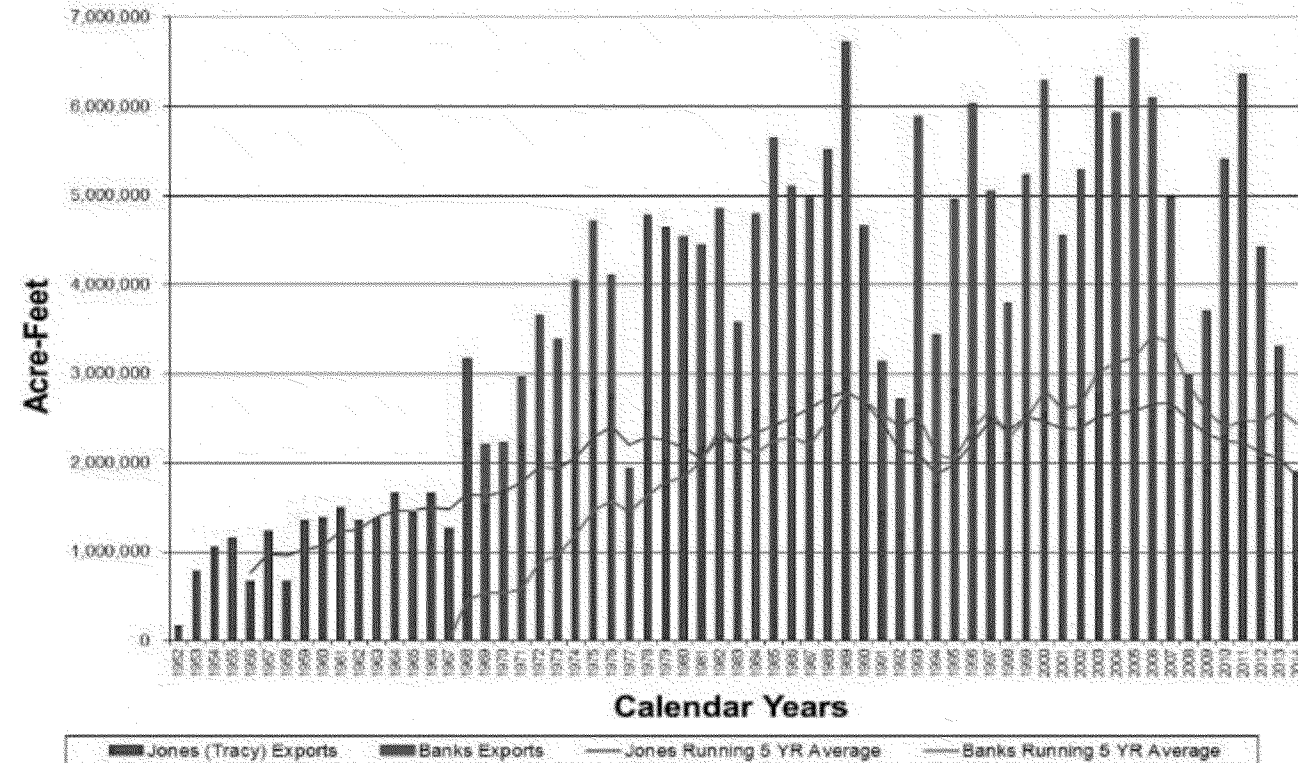
EPA Role

- Review and rate the EIS
- Oversight of CWA Section 404 permit

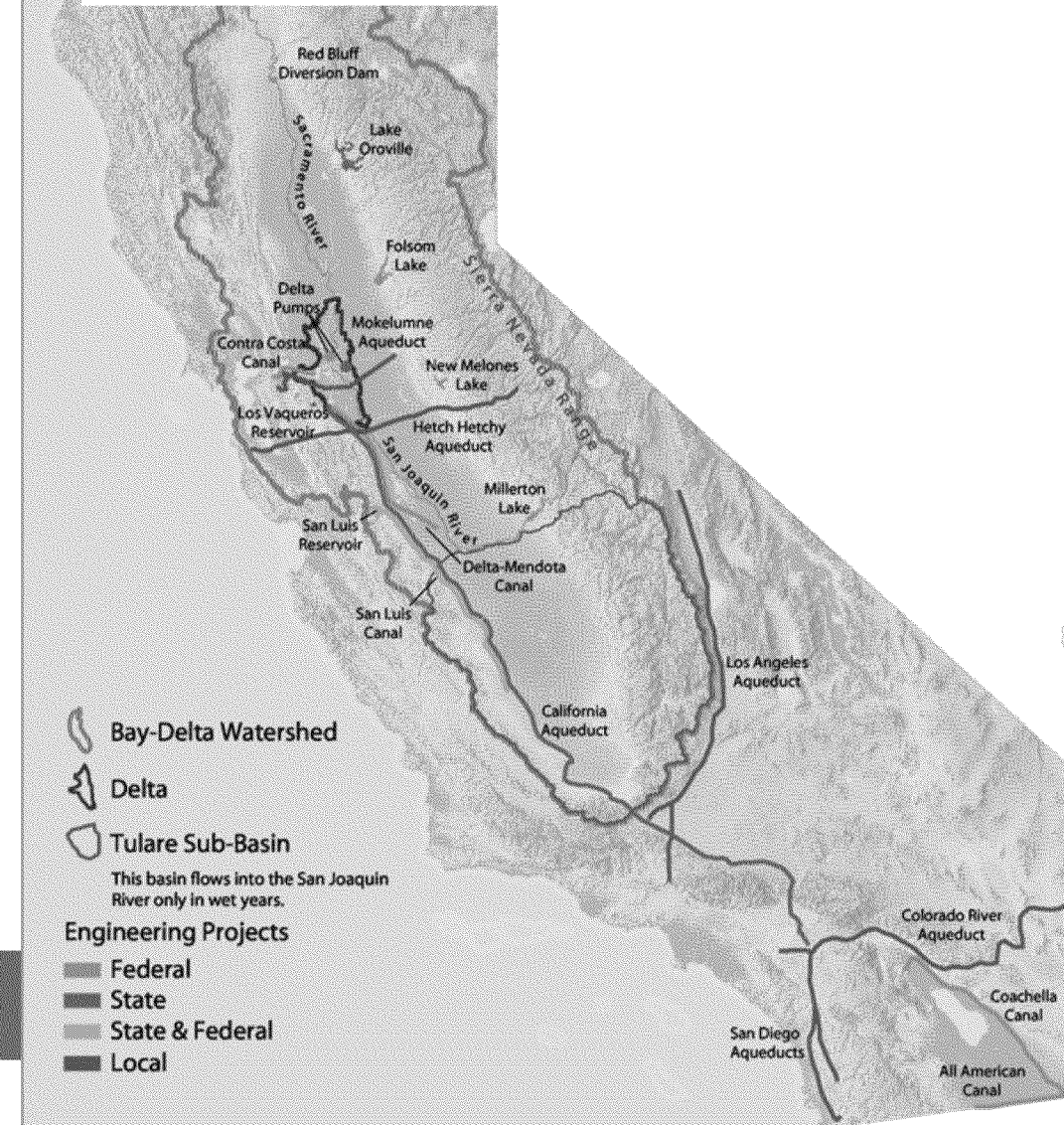


WaterFix

Annual Historical Delta Export Pumping Volumes

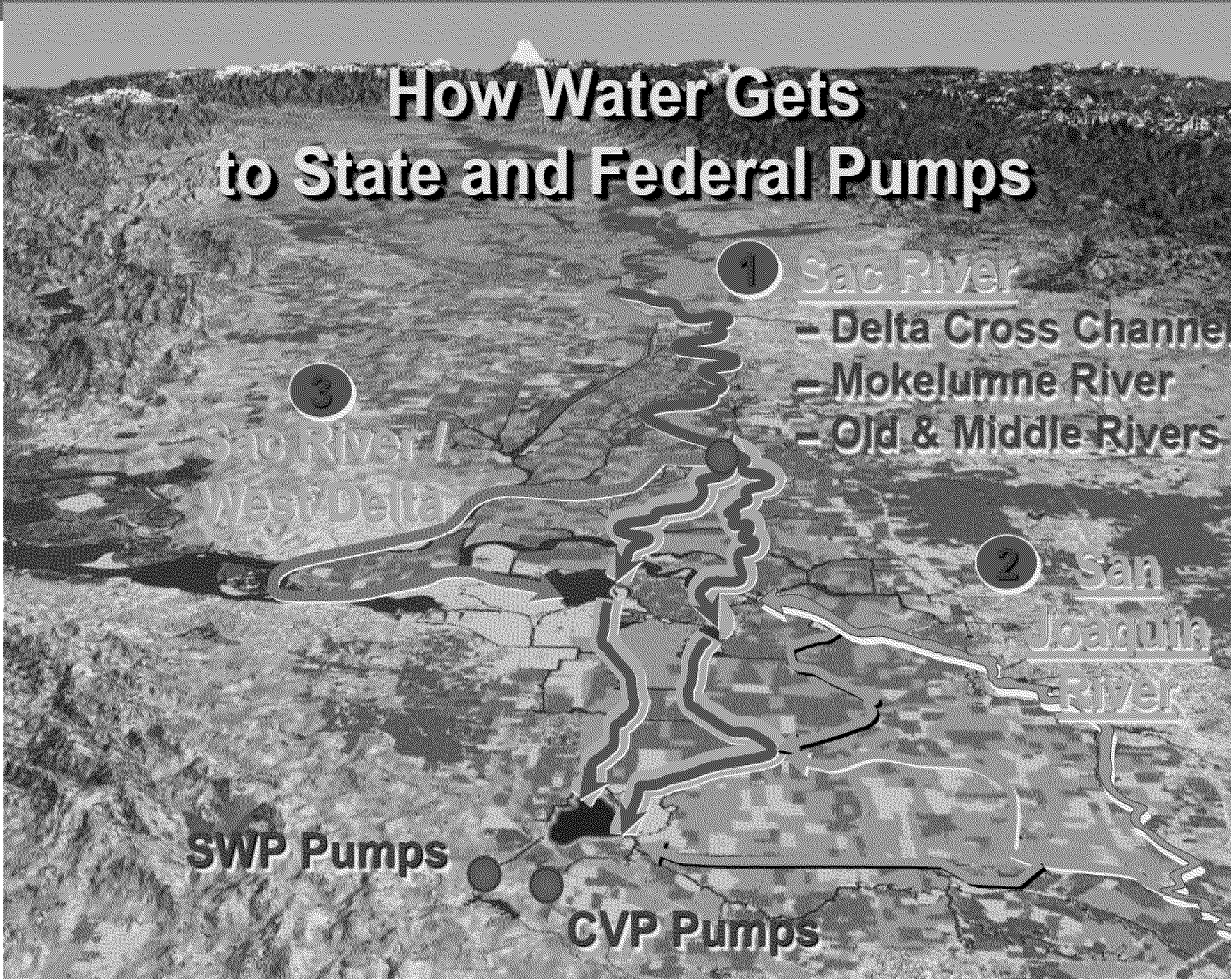


Central Valley Project (CVP) State Water Project (SWP)

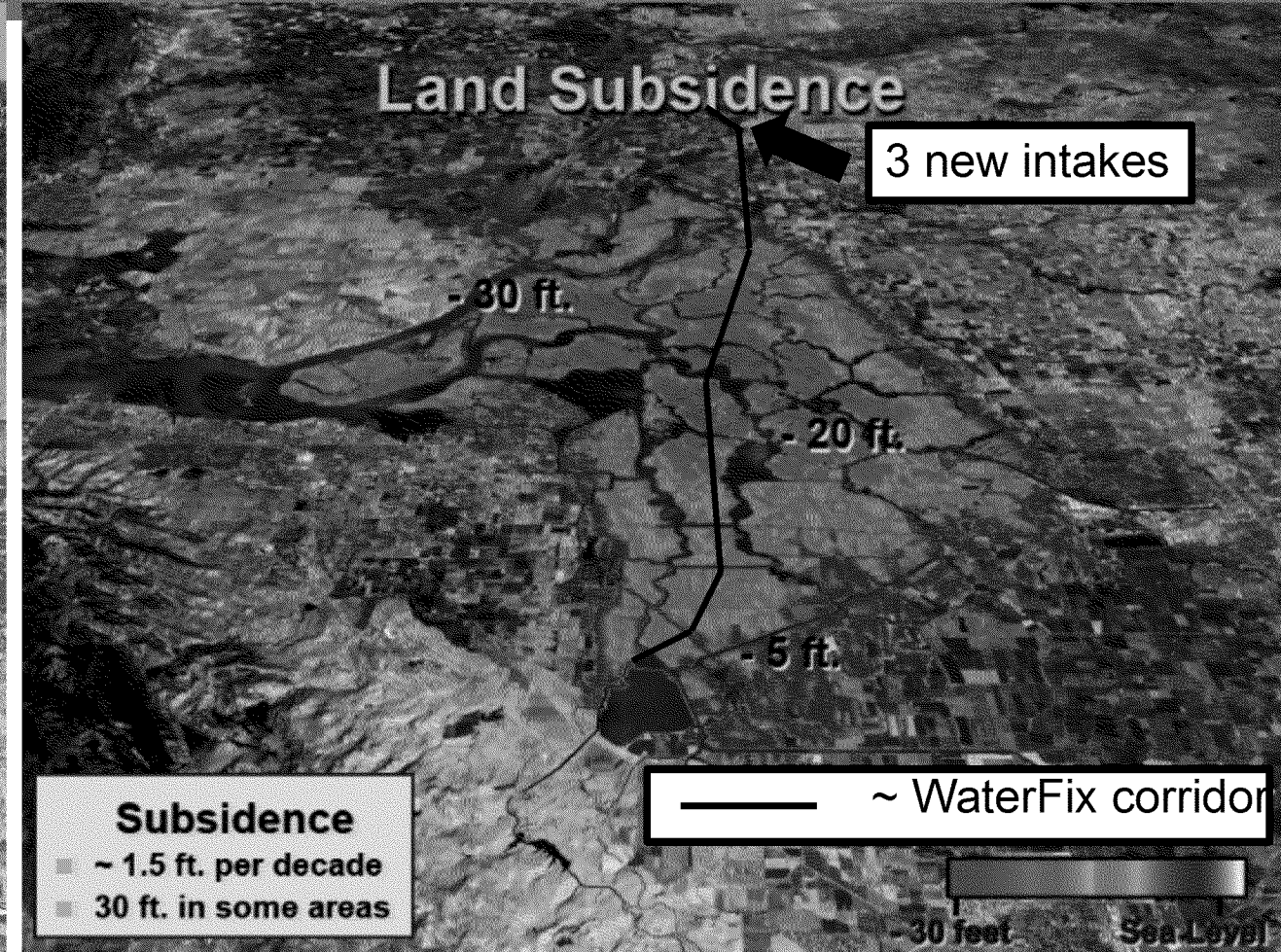


WaterFix

How Water Gets to State and Federal Pumps



Land Subsidence



Ex. 5 - Deliberative Process

NEPA Actions

- Collaborating since 2008
- DEIS Comment Letter August 2014
- SDEIS Rating Letter October 2015

Next Steps

- Final EIS anticipated mid-2016



WaterFix

EPA Actions

404(q) letter sent
November 9, 2015.

Next Steps

- Work with Corps to resolve conflicts

Ex. 5 - Deliberative Process



WaterFix & Water Quality Standards

WQS & WaterFix Overlap

- Several standards are implemented through only one permit, the CVP/SWP water right permit issued by the State Water Board
- The CVP/SWP water right permit has to be modified to add 3 new points of diversion to build and operate the WaterFix project
- State Water Board is holding hearings in 2016 to hear evidence regarding impacts of adding points of diversion and operation CVP/SWP with WaterFix

Ex. 5 - Deliberative Process

- None to date

Next Steps

- Written comments March 2016 and mid summer 2016



Water Quality Standards Updates

Description

- California will update water quality standards in the Bay-Delta that are protective of fish and wildlife beneficial

Ex. 5 - Deliberative Process

- Phase I – South Delta & San Joaquin River and tributaries
- Phase II – Sacramento-San Joaquin Delta

EPA Role

- Approve or disapprove any new or modified Water Quality Standards (WQS)

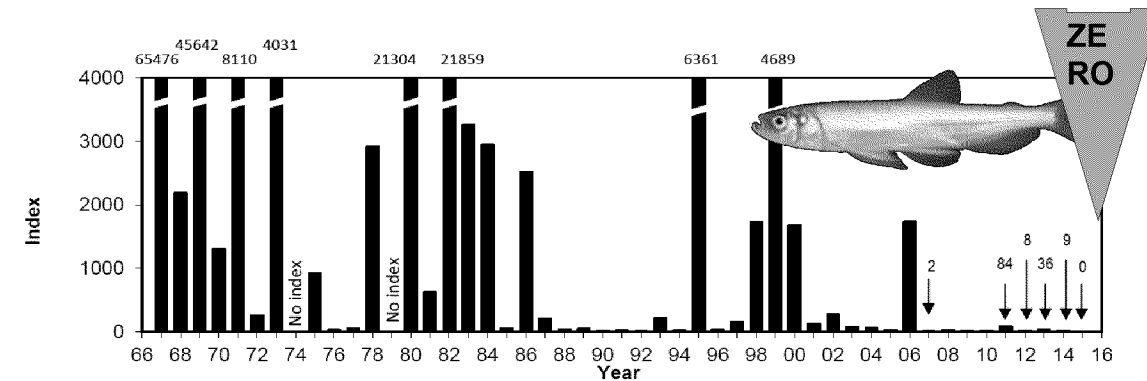


Figure 3. FMWT Longfin Smelt September-October abundance indices, 1967-2015.

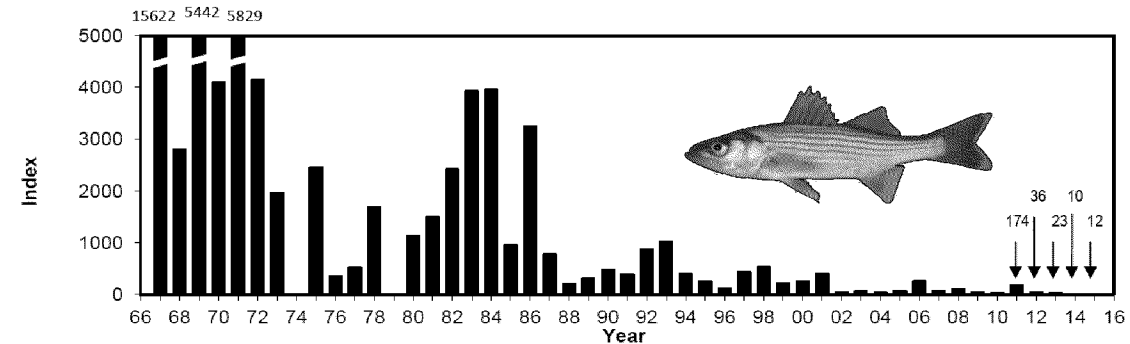


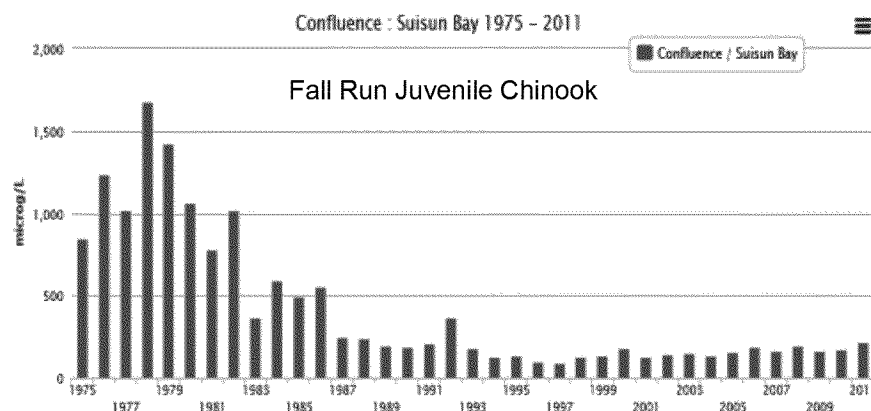
Figure 2. FMWT Age-0 Striped Bass September-October abundance indices, 1967-2015.



Phase I: Water Quality Standards Updates

Lower San Joaquin River

- Draft objectives (2012)
- 1000 cfs baseflow at Vernalis
- 35% of flow in tributaries Feb to June
- Narrative aquatic life objective
- Relaxed south Delta salinity



Ex. 5 - Deliberative Process



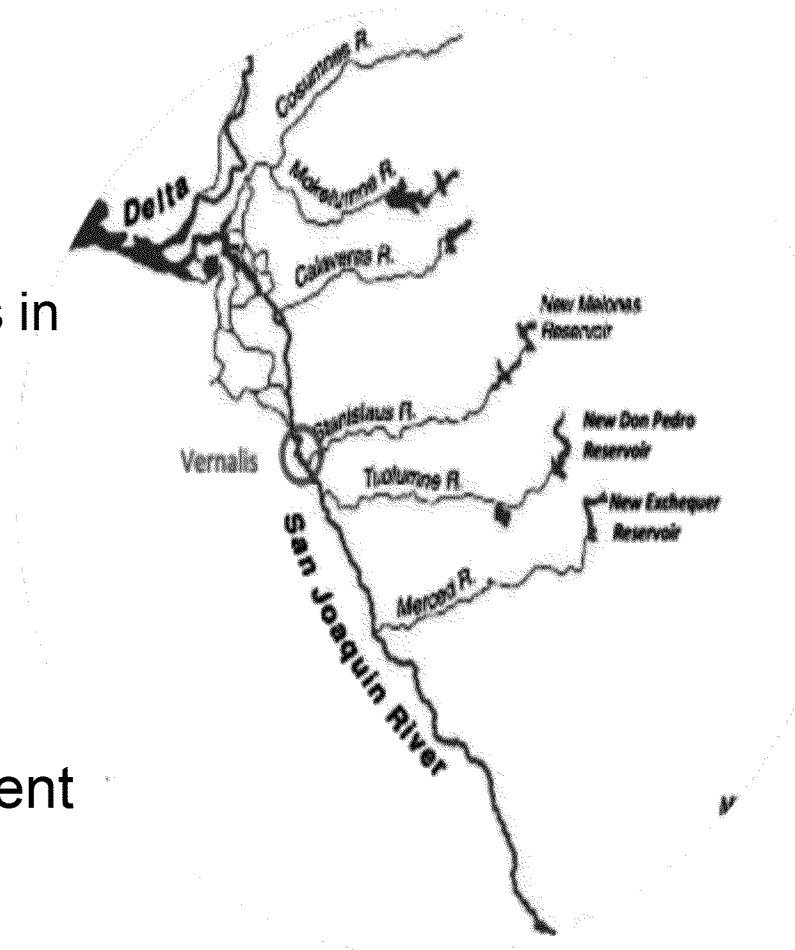
Phase I: Water Quality Standards Updates

EPA Actions

- Scoping comments in March 2009
- Comments on draft objectives in March 2013

Next Steps

- New draft objectives expected January 2016
- EPA will review and comment in early 2016



Next Steps continued

- Water Board will adopt by the end of 2016

Ex. 5 - Deliberative Process



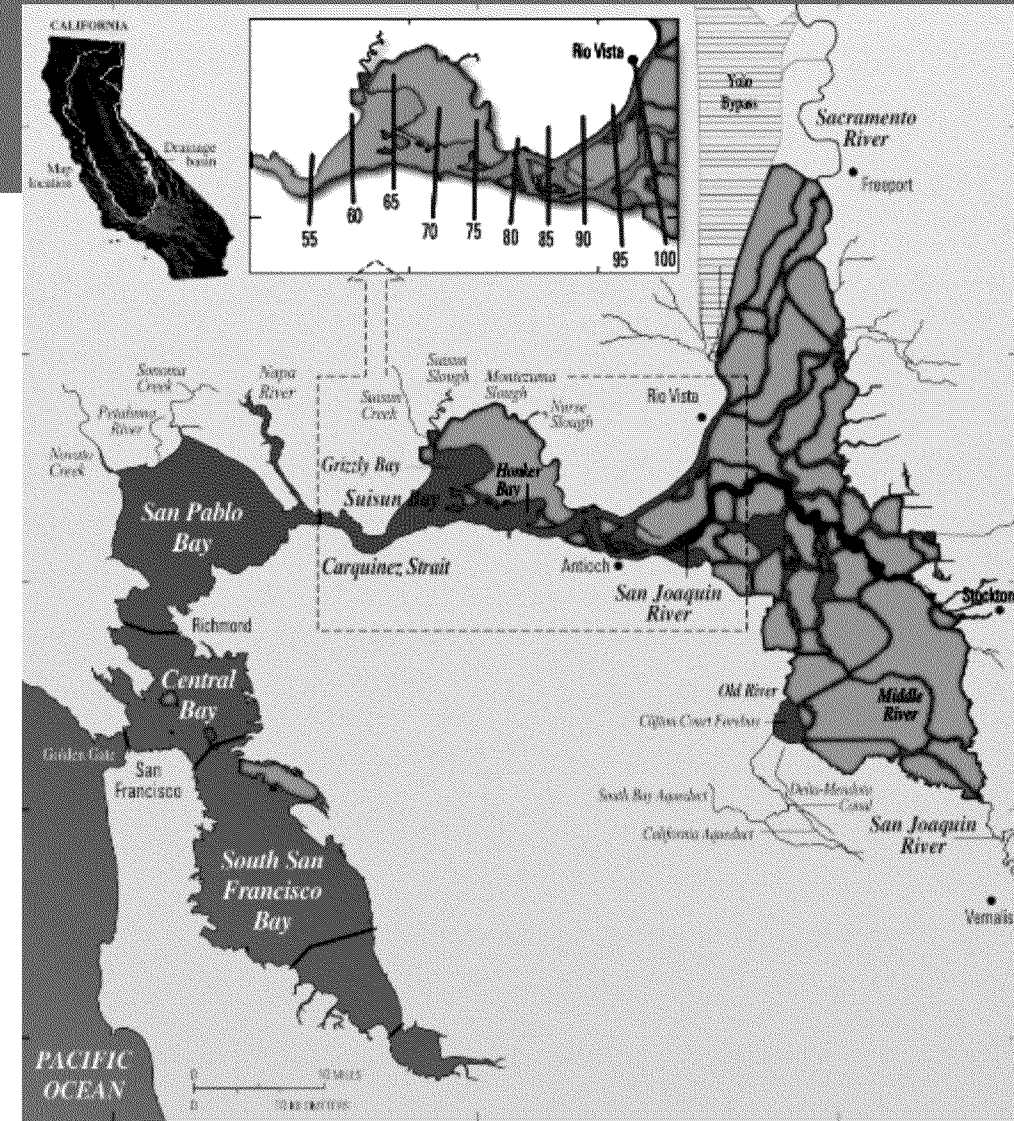
Phase II WQS Updates

Phase II Sacramento-San Joaquin Delta

- Modify or adopt new objectives
 - Delta outflow also called “X2”
 - Suisun Marsh salinity
 - Reverse flows
 - Floodplain flows

Ex. 5 - Deliberative Process

- Scientific foundation for new objectives released early in 2016



Phase II: Water Quality Standards Updates

Ex. 5 - Deliberative Process

EPA Actions

- Comment letters
- April 2012
- August 2012
- November 2012

Next Steps

- Draft objectives released early 2016
- EPA will provide written comments and present at Board meetings
- Anticipate need of technical support for review of proposed objectives



Drought & Implementation of Water Quality Standards

Notice of Intent to sue EPA

- Filed by NRDC, Bay Institute, Defenders of Wildlife
- State Water Board relaxed permit requirements, such as the X2/Delta outflow objective, two years in a row
- Water quality standards were not met fish populations continue to decline
- NOI alleges modifying permit requirements are “variances” of WQS
- NOI alleges EPA failed to take an action on triennial review

Prepare for the extinction of delta smelt in the wild.

2014 FMWT index = 9

2015 STS = 0

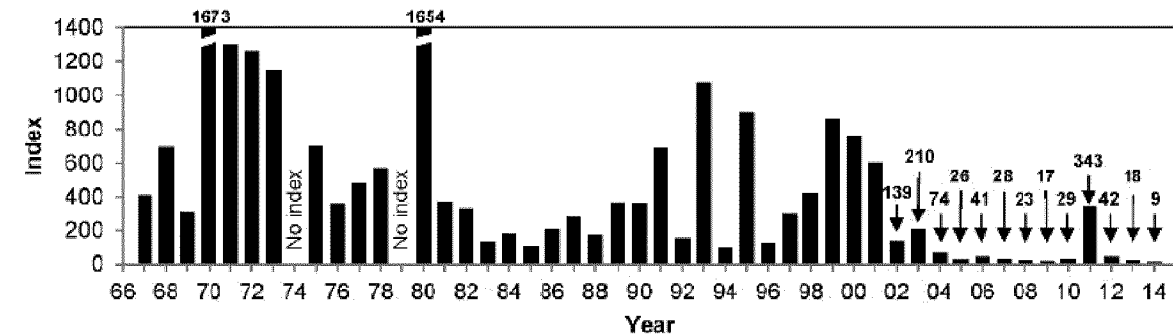
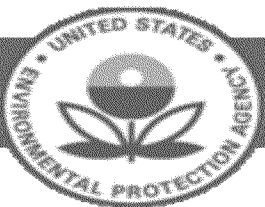


Figure 2. FMWT Delta Smelt annual abundance indices, 1967-2014.



Drought & Implementation of Water Quality Standards

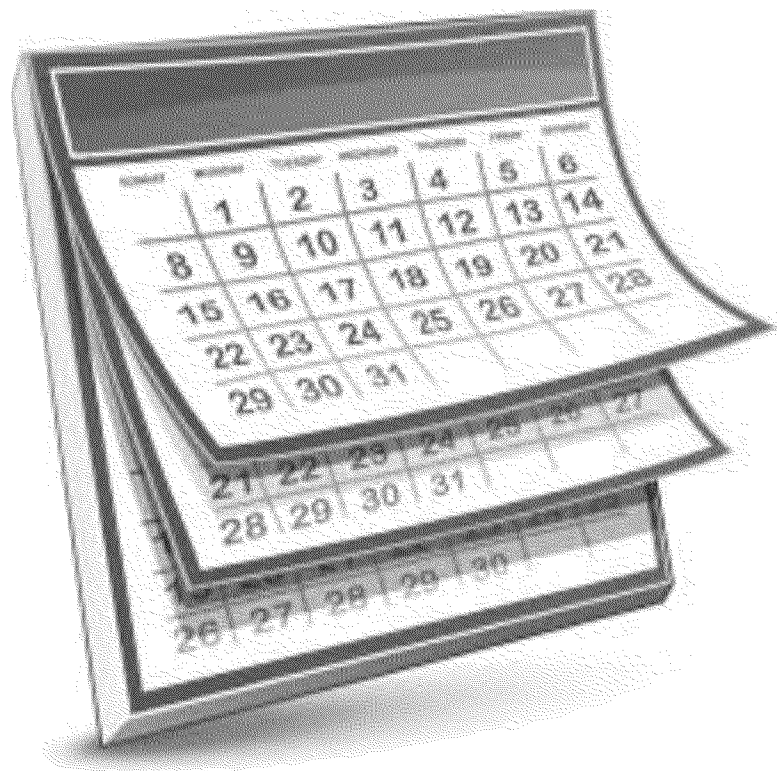
Ex. 5 - Deliberative Process

Economic Impact of Drought in 2014

- Impacts distributed unevenly
- 8.7M acre feet of surface water lost
- 6M acre feet of ground water pumped
- Measurable land subsidence
- \$2.7B loss to agricultural revenue, ~ 6% loss
- Loss of 21,000 jobs
- CA GDP ~ \$2T



Important Dates



Action	Actual/Expected Date	EPA Action
WaterFix: Supplemental DEIS public review	July 17, 2015	NEPA/309 rating October 30, 2015
WaterFix: Corps Public Notice of CWA 404 permit application	Sept 9, 2015	404(q) Letter Nov 9, 2015
WaterFix: State Water Board public notice of the petition to modify water right order (WQS implementing tool) by adding points of diversion.	October 30, 2015	Written comments March 1, 2016
Standards: Phase I Draft Objectives	January 2016	Written comments Feb/March 2016
WaterFix: CWA 404 Review & Conflict Resolution		February – Summer 2016
Standards: Phase II Scientific Basis Report	Spring 2016	Written comments, present at meetings Spring 2016
WaterFix: State Water Board water rights hearing (part I and II)	October 30, 2015	Present comments Part I April 7, 2016 Part II Summer 2016
WaterFix: Supplemental FEIS	Spring 2016	EPA letter Summer 2016
WaterFix: Biological Opinion completed	Mid 2016	None
WaterFix: Water Board Hearings Part II	Summer 2016	Present comments Summer 2016
Standards: Adopt Phase I objectives	Summer/Fall 2016	Review, approve or disapprove end of 2016
WaterFix: 401 Water Quality Certification	2016	None
WaterFix: CWA 404 ROD & Permit	September 2016	TBD



Questions & Discussion

<http://epa.gov/sfbaydelta>